

Role that metabolism of carbohydrates and lipids plays in the etiology and pathogenesis of MS

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Description

The central nervous system is affected by inflammatory and demyelinating events in Multiple Sclerosis (MS), a complicated autoimmune condition. The exact causes and pathogenesis of MS remain unknown. On the other hand, a number of metabolic changes have been explained, along with how they affect immune cells and how the brain works. The role that metabolism of carbohydrates and lipids plays in the etiology and pathogenesis of MS is highlighted in this review. After that, we hypothesized a connection between these metabolic changes and the immune system in MS patients. Last but not least, the potential clinical effects of these metabolic changes on diagnosis, prognosis, and therapeutic target discovery have been discussed. It is concluded that studying the pathophysiological changes in lipid and carbohydrate metabolism may be a strategy for advancing MS treatment. Pathogenesis (also known as Bing Ji) diagnosis is one of the most crucial tasks in Traditional Chinese Medicine (TCM). Its function is similar to that of disease diagnosis in Western medicine. Pathogenesis, according to TCM theory, is a multifaceted system of interconnected factors, which is in line with the nature of Systems Science (SS). To represent pathogenesis as a directed graph, we present a heuristic definition we call Pathogenesis Network (PN) in this paper. By incorporating the holism principle into SS, a computational method of pathogenesis diagnosis known as Network Differentiation (ND) is therefore proposed. There are three stages in ND. The first step is to use a Cartesian product that is based on specific prior knowledge and the input symptoms to generate all possible diagnoses. The holism principle is used to screen the validated diagnoses in the second stage.

Osteonecrosis While Taking Steroids

The third step involves using physician-computer interaction to select the clinical diagnosis. In this paper, some theorems for further optimizing ND are stated and demonstrated. 100 clinical cases served as the subject of our simulation experiments. The findings of the experiments indicate that the proposed approach is well-suited to incorporate holistic thinking into the physician inference process. In clinical practice, steroid-induced osteonecrosis of the femoral head is frequently observed but is

still poorly understood. It's curious why some cases don't develop and others don't. In order to determine its prevalence, associated risk factors, and pathogenesis, we conducted a comprehensive and up-to-date literature review on the subject. We discovered that the incidence was higher when associated with risk factors, ranging from 3% to 40%. A higher dose and prolonged use of steroids, in addition to the underlying disease for which the steroids were prescribed, were identified as risk factors. This disease has a complicated and poorly understood pathogenesis. Clinicians should be able to identify patients who are more likely to develop osteonecrosis while taking steroids if they are aware of this condition and the risk factors associated with it. The global poultry industry has suffered enormous losses due to the Chicken Infectious Anemia Virus (CIAV) and subgroup J Avian Leukosis Virus (ALV-J), both of which are significant immunosuppressive viruses.

Recently, domestic chicken flocks in China frequently experienced CIAV and ALV-J co-infection. However, the pathogenesis of CIAV and ALV-J in combination has not been thoroughly examined. A co-infection study was carried out in this instance to gain a deeper comprehension of the potential synergistic pathogenesis of CIAV and ALV-J. An *in vitro* study revealed that ALV-J could not increase CIAV replication, but CIAV could promote the replication of ALV-J in HD11 cells. A chicken infection study revealed that the infected chickens lost a lot of weight as a result of the synergistic effects of both CIAV and ALV-J. CIAV significantly increased ALV-J viremia, viral shedding, and tissue load in the co-infection group, whereas ALV-J had no effect on CIAV viral shedding or tissue load. Additionally, the humoral immunity to the H9N2 influenza virus and the serotype 4 fowl adenovirus could be significantly inhibited by both CIAV and ALV-J. All of these data show that the co-infection of CIAV and ALV-J has a synergistic pathogenesis and that CIAV has a positive effect on the pathogenesis of ALV-J. Alzheimer's disease is the most common form of dementia in humans and is a complex neurodegenerative disease that affects the elderly. Amyloid plaques, which are made up of beta-amyloid peptides, and neurofibrillary tangles, which are made up of hyperphosphorylated tau protein, are two examples of abnormal protein aggregates that are characteristic of AD. neuroinflammation, calcium signaling, synaptic plasticity, etc.

also demonstrate AD patients' dysfunction. In eukaryotes, autophagy is a lysosome-dependent cellular process that has been around for a long time. In order to maintain protein homeostasis, damaged organelles and misfolded proteins are degraded and recycled through modulation of protein metabolism. There is mounting evidence that impaired autophagy also plays a role in the pathogenesis of AD.

Chemokines Involved in the Inflammatory Process

We focus on how autophagy, both bulk and selective autophagy, regulates metabolic circuits during AD pathogenesis in this review. Autophagy-inducing strategies for the treatment of AD are also a topic of discussion. Giant cell arteritis is a primary granulomatous vasculitis that affects people over the age of 50 and is characterized by a strict tissue tropism for large and medium-sized vessels. In the past ten years, significant progress has been made in our understanding of some of the pathophysiological mechanisms that are involved in the pathogenesis of giant cell arteritis. However, specific disease triggers and mechanisms of chronic damage have not yet been identified. The definition of a particular pro-inflammatory hierarchy between the various cell types and the various cytokines or chemokines involved in the inflammatory process is still an area of research that has not been thoroughly

investigated. The ultimate objective of precision medicine is to determine the most effective treatment option for a specific diseased individual or group. The identification of molecular biomarkers that permit a precise stratification of patients and an adequate prediction of the therapeutic response at baseline is the fundamental prerequisite for this strategy. As a result, the possibility of taking temporal artery biopsies for the purpose of diagnosis opens up a world of new possibilities for defining various disease phenotypes that might respond to various therapeutic interventions. We will attempt to define, if at all possible, a new pathogenetic-centered approach to patients with giant cell arteritis in this Series paper by describing the most recent evidence regarding the pathogenesis of the disease. Although its role in perinatal depression is less well-studied, inflammation's role in the pathogenesis of depression is becoming increasingly clear. The study of depression-related changes during pregnancy and the postpartum period is complicated because these periods are marked by distinct and shifting inflammatory profiles. There is evidence in this review that the immune system plays a role in both antenatal and postnatal depression. In addition, the literature on the impact of the mother's immune system on the composition of her breast milk and the immunological and behavioral outcomes of her offspring is discussed before the discussion concludes with recommendations for future research in this rapidly expanding field.